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EXAMINER	
NELSON, ALECIA DIANE	
ART UNIT	PAPER NUMBER
2675	

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/775,357	SAARINEN, PERTTI	
	Examiner	Art Unit	
	Alecia D Nelson	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02/01/01* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The references listed on the information disclosure statement (IDS) submitted on 2/01/01 has been considered by the examiner.

Drawings

3. ***Figures 1-3*** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: The reference letters designating for the stereo base appear to be incorrect, specifically on page 3, line 2 and line 13. Also it was noticed that the word "utilized/utilizing" is spelled throughout the specification. Examiner requests that the applicant review the specification for other typographical errors.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. ***Claim 33*** recites the limitation "said mobile electronic device" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. ***Claims 1-6, 28-34, 41-43, 54, 55,56*** rejected under 35 U.S.C. 103(a) as being unpatentable over Ali et al. (U.S. Patent Application Publication # 2002/0140675)

With reference to **claims 1, 28-30, 41-43, 54, 55, and 56** Ali et al. teaches a display (740) an orientation sensitive interface mechanism (800) operable in first and second modes corresponding to respective first (landscape) and second orientations (portrait) of the display; selection means (820) for selecting operation of the orientation sensitive interface mechanism in the first or second mode; and orientation sensing means (950) for determining an orientation of the display,

wherein the orientation sensing means comprises a display mode sensor responsive to a display mode control signal indicative of a display mode for an image for display by the display apparatus (see column 7, lines 2-20). With further reference **claims 28 and 54** all displays have a viewing angle therefore there will be a viewing angle for the landscape mode and a viewing angle for portrait mode.

Ali et al. fails to specifically teach that the orientation sensing means automatically activates the selection means in accordance with the sensed orientation and display mode. However it is taught that one or more manual switches, buttons or display icons may be actuated or otherwise selected to manually set the orientation of the display (see abstract). It is also taught it is possible for the one or manual switches, buttons, or display icons on the portable device can override the tilt sensor, allowing the display to be presented in a different mode (see page 9, paragraph 0089).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the device of Ali et al. to allow for the orientation of the display to automatically activate the selection means, which is used to select a desired mode of the display, as it is suggest that the selection means has the ability to override the current mode to which the display is currently placed to place the display in a different mode. This allows the user the ability to be able to change the mode of the display based on the orientation of the display device, based on the usage of the selection means, or the combination of both thereby providing a plurality of choices for switching modes,

which would make control of the device more convenient and simplified for the user, especially in situations wherein the usage of the selection means is inconvenient.

With reference to claim 2, the orientation sensing means (950) is operable to determine the orientation relative to the surface of the earth (see page 3, paragraph 0020).

With reference to claims 3 and 4, the display comprises a dimension corresponding to a first direction greater than a dimension corresponding to a second direction, which establishes landscape and portrait modes, wherein the first and second directions being transverse to each other (see figure 8a-8c).

With reference to claims 5 and 6, it is disclosed that the selection means (820) is user, and manually, operable (see page 7, paragraph 0067 and 0070).

With reference to claim 31, the usage of a digital camera and a display driver for driving images derived from the digital camera are well known in the art. The usage of such digital camera and driving means are also well known in the art to be contained with in a portable device.

With reference to claims 32 and 34 the display apparatus is comprised within a portable electronic device (page 6, paragraph 0066), which is taught to

be a portable user interface (800). Portable computer devices with internet capabilities is well known in the art.

With reference to claim 33, it is taught that the portable device includes a keypad (750) (see page 7, paragraph 0068).

9. ***Claims 7-10, 18, 25-27, 40, and 51-53*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ali et al. in view of Applicant's admittance of known art.

With reference to **claims 7-10, 25-27, 40, and 51-53** Ali et al. teaches a display (740) an orientation sensitive interface mechanism (800) operable in first and second modes corresponding to respective first (landscape) and second orientations (portrait) of the display; selection means (820) for selecting operation of the orientation sensitive interface mechanism in the first or second mode; and orientation sensing means (950) for determining an orientation of the display, wherein the orientation sensing means comprises a display mode sensor responsive to a display mode control signal indicative of a display mode for an image for display by the display apparatus (see column 7, lines 2-20). With further reference **claims 28 and 54** all displays have a viewing angle therefore there will be a viewing angle for the landscape mode and a viewing angle for portrait mode.

Ali et al. fails to specifically teach that the orientation sensing means automatically activates the selection means in accordance with the sensed

orientation and display mode. However it is taught that one or more manual switches, buttons or display icons may be actuated or otherwise selected to manually set the orientation of the display (see abstract). It is also taught it is possible for the one or manual switches, buttons, or display icons on the portable device can override the tilt sensor, allowing the display to be presented in a different mode (see page 9, paragraph 0089). Ali et al. also fails to specifically teach that the orientation sensitive interface mechanism includes a speaker arrangement wherein the selection means it operable to select first or second loudspeaker pair for operation in the first or second mode. However, Ali et al. does teach that the portable device does contain speaker (772) and a speaker driver (770) (see figure 7). Further with reference to claims 25 and 51, Ali et al. fails to teach the usage of a microphone being disposed on the display device.

The applicant discloses, with reference to known art as shown in Figures 1-3, a stereophonic reproduction wherein a display, configurable in landscape and portrait orientations, comprises four speakers (24a-d) wherein a first loudspeaker pair (Lpl) comprising a first (24a) and second (24c) loudspeaker disposed along a first axis corresponding to the first orientation (Figure 2a), a third loudspeaker (24d), wherein the second (24c) and third (24d) loudspeaker forming a second loudspeaker pair (Llr) disposed along a second axis corresponding to the second orientation, and a selection means operable to select the first or second loudspeaker pair for operation in the first or second mode (pages 1-3). The conventional art disclosed by the applicant also fails to teach a microphone being disposed on the display device, however the usage of

speaker and microphones together to produce audio information to the user is well known in the art, and it would thereby be obvious to one having ordinary skill in the art to allow for such known combination to generate audio information for the user.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the speaker arrangement, as disclosed by the applicant with reference to conventional art, in a device similar to that which is taught by Ali et al., which allows a display to be operable in different orientations in order to provide a display apparatus operable in different modes wherein regardless of the display orientation the user is provided with optimum and suitable audio reproduction when the display is being operated in either landscape or portrait modes.

With reference to **claim 18**, Ali et al. teaches that the portable device does contain speaker (772) and a speaker driver (770) (see figure 7).

Ali et al. fails to specifically teach that the orientation sensitive interface mechanism includes a speaker arrangement wherein the selection means it operable to select first or second loudspeaker pair for operation in the first or second mode.

The conventional art teaches the usage of the first, second, and third loudspeaker as explained above, however fail to mention the usage of speaker drivers for each speaker.

However, it would be obvious to one having ordinary skill in the art at the time of the invention to allow for the speaker arrangement as taught by the conventional art to allow a speaker driver for each speaker, as taught by Ali et al. in order to provide the user with optimum and suitable stereophonic reproduction in the display apparatus.

With reference to **claims 26, 27, 52, and 53** neither Ali et al. or the conventional art teach the usage of a stereo microphone or a directional microphone, however, both are well known in the art and would thereby be obvious to use.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow for the audio arrangement as suggested by the conventional art and Ali et al. in order to provide the user with optimum and suitable audio reproduction in the display apparatus.

10. ***Claims 35-39*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ali et al. as applied to **claim 30** above, and further in view of Danielson (WO 94/19736).

With reference to the claims Ali et al. fails to specifically teach that the device includes a transceiver and antenna for communicating with a wireless communication network. However, Ali et al. does teach that the electronic device is connectable with a docking station (660) wherein a docking station processor

(910) provides serial data for communications with external devices (see page 7 paragraph 0072).

Danielson teaches a portable data device (10) may be in communication with such a host computer in an interactive or on-line mode via a data communications link, such as a radio frequency transceiver arrangement. The presence of such a radio transceiver is indicated as an alternative embodiment by a radio antenna (11) (see page 12, lines 14-22).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow for such wireless communication, as taught by Danielson, in a device similar to that which is taught by Ali et al. thereby providing continuous communication, without requiring usage of a base station, this thereby providing the user to be able to carry out more remote functions through one portable device.

11. ***Claims 44-48*** rejected under 35 U.S.C. 103(a) as being unpatentable over Ali et al. as applied to **claim 41** above, and further in view of Applicant's admittance of known art.

With reference to **claims 44-48**, Ali et al. teaches that the portable device contains speaker (772) and a speaker driver (770) (see figure 7).

However, Ali et al. fails to specifically teach that the orientation sensitive interface mechanism includes a speaker arrangement wherein the selection means it operable to select first or second loudspeaker pair for operation in the first or second mode.

The applicant discloses, with reference to known art as shown in Figures 1-3, a stereophonic reproduction wherein a display, configurable in landscape and portrait orientations, comprises four speakers (24a-d) wherein a first loudspeaker pair (Lpl) comprising a first (24a) and second (24c) loudspeaker disposed along a first axis corresponding to the first orientation (Figure 2a), a third loudspeaker (24d), wherein the second (24c) and third (24d) loudspeaker forming a second loudspeaker pair (Llr) disposed along a second axis corresponding to the second orientation, and a selection means operable to select the first or second loudspeaker pair for operation in the first or second mode (pages 1-3). The conventional art disclosed by the applicant also fails to teach a microphone being disposed on the display device, however the usage of speaker and microphones together to produce audio information to the user is well known in the art, and it would thereby be obvious to one having ordinary skill in the art to allow for such known combination to generate stereophonic information for the user.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the speaker arrangement, as disclosed by the applicant with reference to conventional art, in a device similar to that which is taught by Ali et al., which allows a display to be operable in different orientations in order to provide a display apparatus operable in different modes wherein regardless of the display orientation the user is provided with optimum and suitable audio reproduction when the display is being operated in either landscape or portrait modes.

12. ***Claims 11-17*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ali et al. in view of the Applicant's admittance of known art as applied to **claim 7** above, and further in view of Derocher et al. (U.S. Patent No. 6,078,497).

With reference to the claims neither Ali et al. nor the known art disclosed by the applicant teach or suggest a stereo extension means to widen the stereophonic image produced by the first and second speakers or that the circuitry is operable to introduce a phase delay between the right and left speaker signals. However the usage of a phase delay of signal is well known in the art, and would also be obvious to include such delay in order to prevent a lag in sound produced between the right and left speakers.

Derocher et al. teaches a portable electronic device having a first and second speaker assembly wherein the speaker assemblies are capable of being in a normal position or an extended position. It is also taught that the first and second speaker chambers each have a larger volume when the speaker assemblies are in the extended position than when they are in the normal position (see abstract, column 2, line 59-column 3, line 43).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow for such an extension arrangement as taught by Derocher et al. to a portable device similar to that which is taught by Ali et al. and the known art as disclosed by the applicant in order to thereby provide a speaker arrangement for a portable device wherein the device is capable of providing improved high quality sound without having to increase the size

requirements of the speakers, which would thereby increase the size of portable device, thereby making the device more bulky.

13. ***Claims 19-24, 49, 50, and 57*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ali et al. in view of Danielson.

With reference to **claims 19, 20, 24, 49, and 50** Ali et al. teaches a display (740) an orientation sensitive interface mechanism (800) operable in first and second modes corresponding to respective first (landscape) and second orientations (portrait) of the display; selection means (820) for selecting operation of the orientation sensitive interface mechanism in the first or second mode; and orientation sensing means (950) for determining an orientation of the display, wherein the orientation sensing means comprises a display mode sensor responsive to a display mode control signal indicative of a display mode for an image for display by the display apparatus (see column 7, lines 2-20).

Ali et al. fails to specifically teach that the orientation sensing means automatically activates the selection means in accordance with the sensed orientation and display mode. However it is taught that one or more manual switches, buttons or display icons may be actuated or otherwise selected to manually set the orientation of the display (see abstract). It is also taught it is possible for the one or manual switches, buttons, or display icons on the portable device can override the tilt sensor, allowing the display to be presented in a different mode (see page 9, paragraph 0089). Ali et al. also fails to teach that the

display is a touch sensitive display, however does teach a soft key (820) corresponding to the first and second mode of operation.

Danielson teaches that the display of the portable device has an active area which is covered by a touch sensitive overlay screen which is configured in one mode of operation of the data terminal. The orientation of the template may be sensed to switch the orientation of the displayed data and touch sensitive key identifiers to correspond to the orientation of the indicia on the data and touch sensitive key identifiers to correspond to the orientation of the indicia on the template (see abstract).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the device of Ali et al. to allow for the orientation of the display to automatically activate the selection means, which is used to select a desired mode of the display, as it is suggest that the selection means has the ability to override the current mode to which the display is currently placed to place the display in a different mode. This allows the user the ability to be able to change the mode of the display based on the orientation of the display device, based on the usage of the selection means, or the combination of both thereby providing a plurality of choices for switching modes, which would make control of the device more convenient and simplified for the user, especially in situations wherein the usage of the selection means is inconvenient. Further it would be obvious to allow for a touch sensitive display wherein the selection means is located within the active area of the display in order to thereby reduce the size of the overall device. Providing the keypad on

the display device in the form of a touch pad, the size of the portable device is reduce thereby making the device more lightweight and convenient for the user to carry.

With reference to **claims 21-23**, Neither reference teach that the keyboard is a QWERTY keyboard or comprises a numeric keypad or special function keys. However, such keyboard arrangement is well known in the art, as well as the usage of a numeric keypad and function keys, which are also well known in the art to be included on most standard QWERTY keyboards.

With reference to **claim 57**, With reference to the claims Ali et al. fails to specifically teach that the device includes a transceiver and antenna for communicating with a wireless communication network. However, Ali et al. does teach that the electronic device is connectable with a docking station (660) wherein a docking station processor (910) provides serial data for communications with external devices (see page 7 paragraph 0072).

Danielson teaches a portable data device (10) may be in communication with such a host computer in an interactive or on-line mode via a data communications link, such as a radio frequency transceiver arrangement. The presence of such a radio transceiver is indicated as an alternative embodiment by a radio antenna (11) (see page 12, lines 14-22).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow for such wireless communication, as taught

by Danielson, in a device similar to that which is taught by Ali et al. thereby providing continuous communication, without requiring usage of a base station, this thereby providing the user to be able to carry out more remote functions through one portable device.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D. Nelson whose telephone number is (703)305-0143. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on (703)305-9720. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-2600.

adn/ADN
August 23, 2003

DENNIS-DOON CHOW
PRIMARY EXAMINER